

PHILIPS



MasterColor®
Ceramic Metal Halide
PAR Lamps



photo courtesy of Gary Gordon for Club Monaco

Ideal for...

- **Retail accent and display lighting**
- **Architectural lighting**

...for interior and exterior applications



■ **Excellent Color Rendering**

82–85 for 3K; 90–93 for 4K

■ **Superior Color Stability**

Within $\pm 200K$

■ **Lamp to Lamp Color Consistency Over Life**

■ **Environmentally Responsible
TCLP Compliant **Alto®**
Lamp Technology**

PAR 38 versions pass EPA's TCLP* test for non-hazardous waste

■ **Reduced Lighting Cost of Ownership Benefits**

- Energy-efficient alternative to incandescent/halogen
- Reduced end-of-life handling and disposal costs
- Maintained light output for extended useful life
- Operate on existing ballasts
- Up to 12,500-hour lamp life

■ **UV FadeBlock™**

Safe for people and photo-sensitive materials

* Toxic Characteristic Leaching Procedure

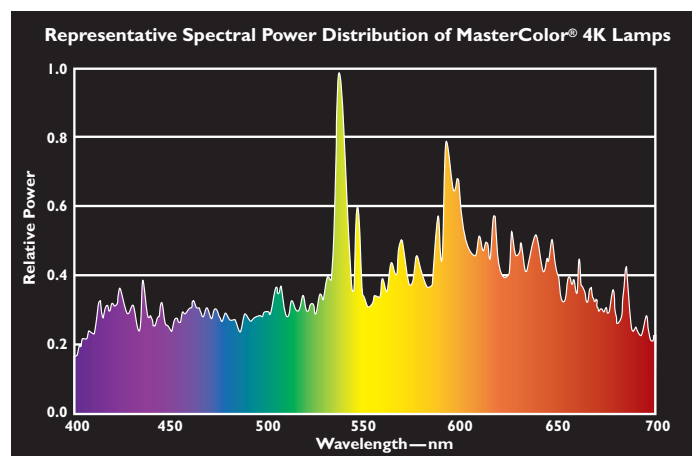
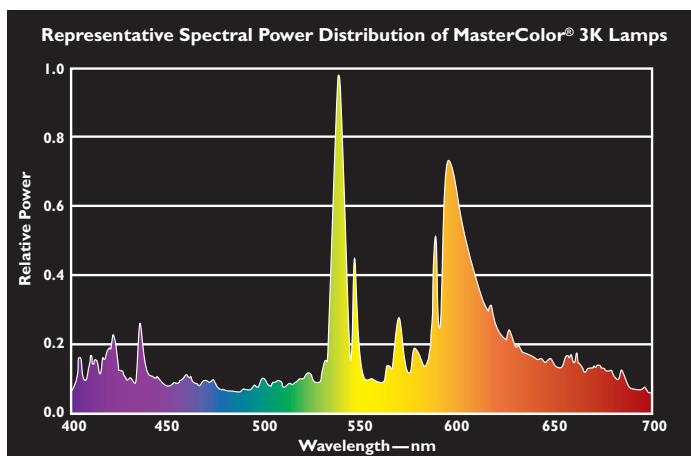
**Philips
Lighting
Company**



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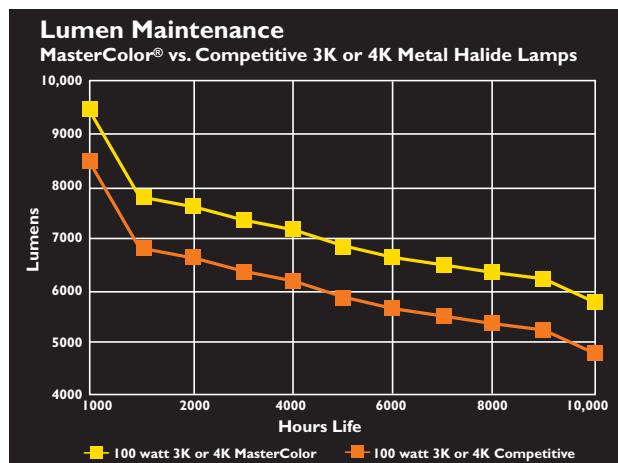
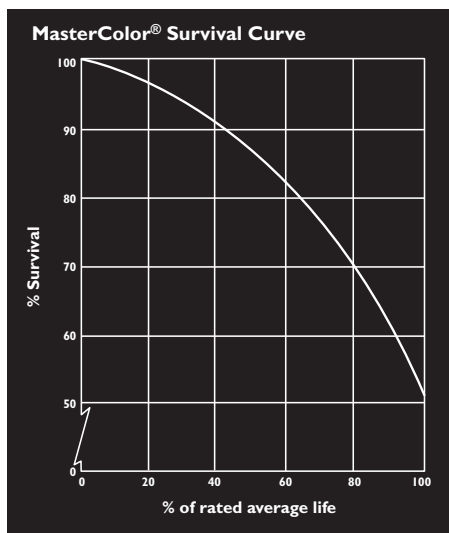
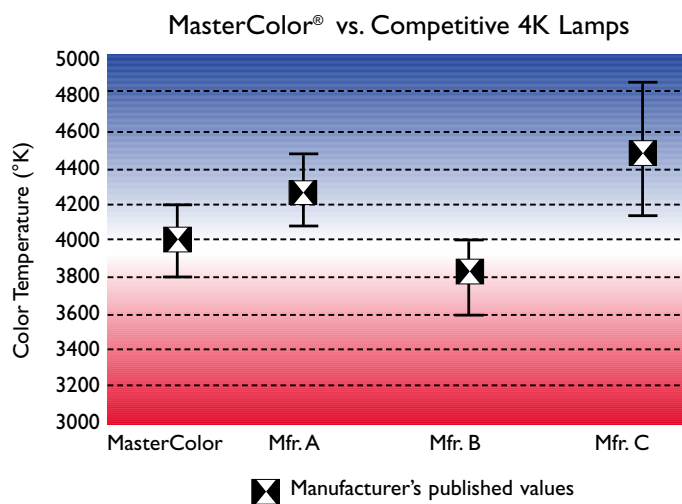
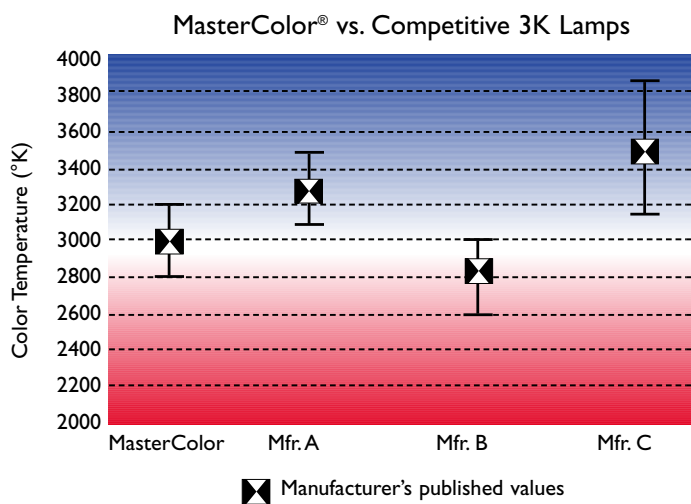
Let's make things better.

MasterColor® Spectral Power Distribution

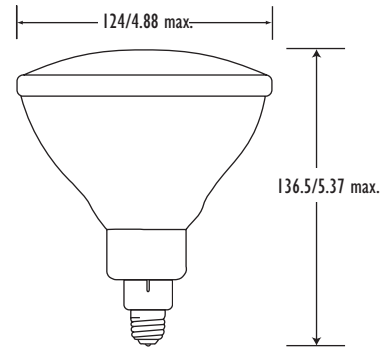
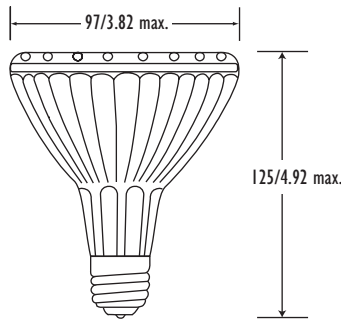
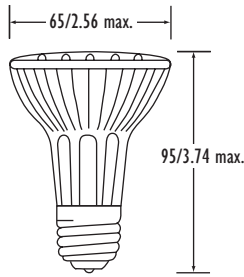


Superior Color Stability

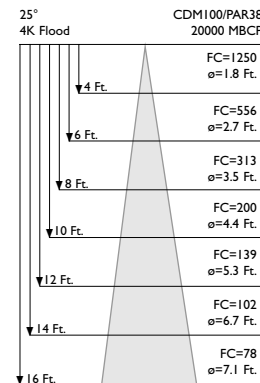
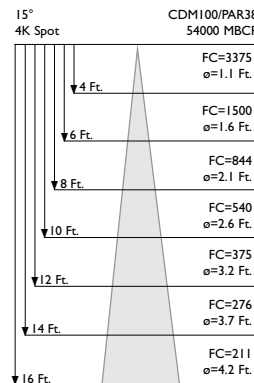
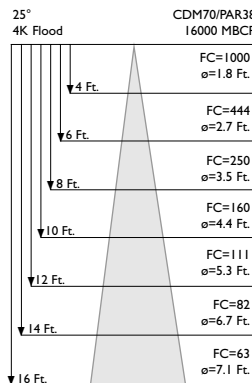
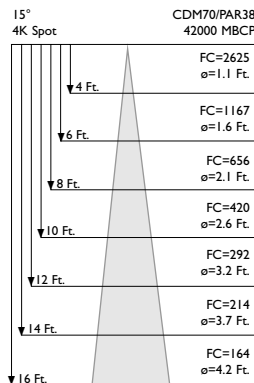
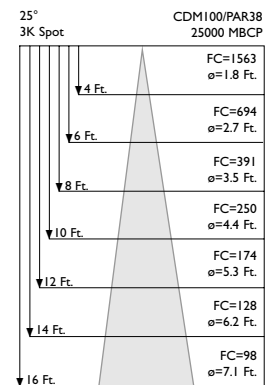
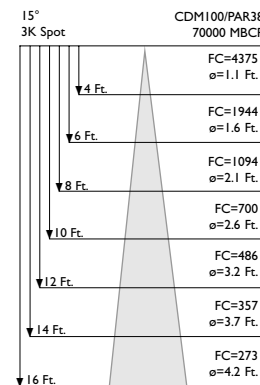
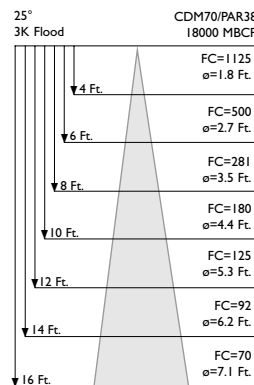
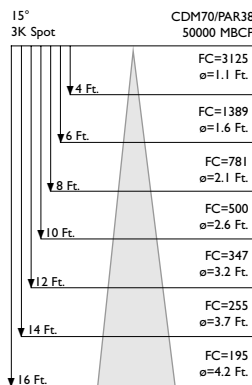
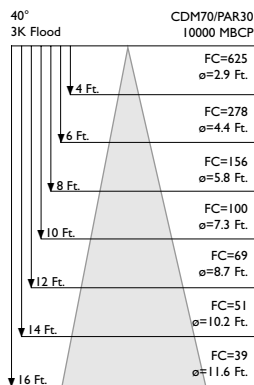
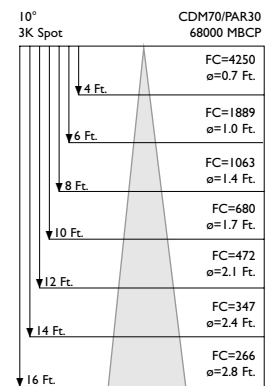
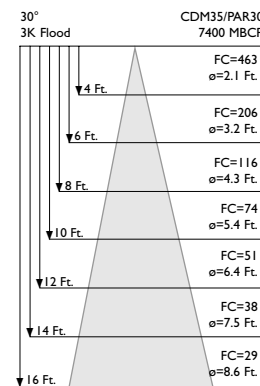
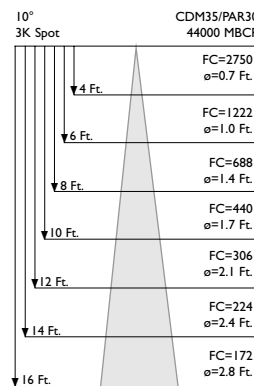
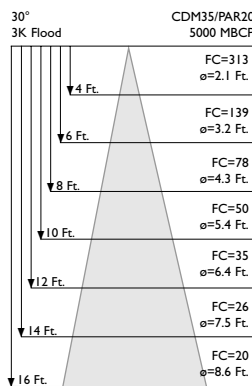
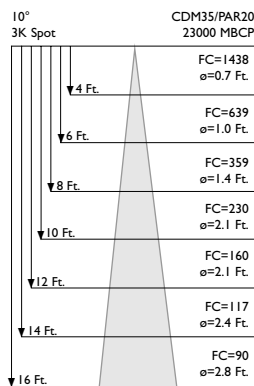
Graphs depict test data showing actual range of lamp color temperatures vs. published values (for 100 watt lamps).



Lamp Dimensions (mm/in.)



Beam spread at 50% Maximum Beam Candlepower—0° primary angle FC=Footcandles at mounting height ø=Beam diameter at mounting height



MasterColor® Metal Halide PAR Lamps

Electrical, Technical and Ordering Data (Subject to change without notice)

CCT	Luminaire	Product Ordering 046677-	Nominal Watts	Bulb	Ordering Code	ANSI Code	Avg. Life (Hrs.)	Initial Lumens	Mean Lumens	CRI	Description
3K	Open/Enclosed	23365-0	39	PAR20	CDM35/PAR20/M/SP/3K	M130	9000	2000	N/A	81	PAR SP 10°
	Open/Enclosed	23364-3	39	PAR20	CDM35/PAR20/M/FL/3K	M130	9000	2000	N/A	81	PAR FL 30°
	Open/Enclosed	22329-7	39	PAR30L	CDM35/PAR30L/M/SP/3K	M130	9000	2000	N/A	81	PAR SP 10°
	Open/Enclosed	22330-5	39	PAR30L	CDM35/PAR30L/M/FL/3K	M130	9000	2000	N/A	81	PAR FL 30°
	Open/Enclosed	23224-9	70	PAR30L	CDM70/PAR30L/M/SP/3K	M143/M98	9000	4800	N/A	82	PAR SP 10°
	Open/Enclosed	23221-5	70	PAR30L	CDM70/PAR30L/M/FL/3K	M143/M98	9000	4800	N/A	82	PAR FL 30°
	Open/Enclosed	22250-5	70	PAR38	CDM70/PAR38/SP/3K	M143/M98	10,000	4800	N/A	82	PAR SP 15°
	Open/Enclosed	22249-7	70	PAR38	CDM70/PAR38/FL/3K	M143/M98	10,000	4800	N/A	82	PAR FL 25°
	Open/Enclosed	24477-2	100	PAR38	CDM100/PAR38/SP/3K	M140/M90	12,500	6800	N/A	85	PAR SP 15°
	Open/Enclosed	24476-4	100	PAR38	CDM100/PAR38/FL/3K	M140/M90	12,500	6800	N/A	85	PAR FL 25°
4K	Open/Enclosed	28872-0	70	PAR38	CDM70/PAR38/SP/4K	M143/M98	10,000	4200	N/A	92	PAR SP 15°
	Open/Enclosed	28873-8	70	PAR38	CDM70/PAR38/FL/4K	M143/M98	10,000	4200	N/A	92	PAR FL 25°
	Open/Enclosed	28876-1	100	PAR38	CDM100/PAR38/SP/4K	M140/M90	10,000	6000	N/A	93	PAR SP 15°
	Open/Enclosed	28878-7	100	PAR38	CDM100/PAR38/FL/4K	M140/M90	10,000	6000	N/A	93	PAR FL 25°

Note: Electronic ballasts are preferred for optimum performance, energy efficiency and circuit loading.

Warnings, Cautions and Operating Instructions

“WARNING: These lamps can cause serious skin burn and eye inflammation from short wave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Certain lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.” This lamp complies with FDA radiation performance standard 21 CFR subchapter J. (USA: 21 CFR 1040.30 Canada: SOR/DORS/80-381)

If the outer bulb is broken or punctured, turn off at once and replace the lamp to avoid possible injury from hazardous short wave ultraviolet radiation. Do not scratch the outer bulb or subject it to pressure as this could cause the outer bulb to crack or shatter. A partial vacuum in the outer bulb may cause glass to fly if the envelope is struck.

WARNING: The arc-tube of metal halide lamps are designed to operate under high pressure and at temperatures up to 1000°C and can unexpectedly rupture due to internal or external factors such as a ballast failure or misapplication. If the arc-tube ruptures for any reason, the outer bulb may break and pieces of extremely hot glass might be discharged into the surrounding environment. If such a rupture were to happen, THERE IS A RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE.

These lamps are designed to retain all the glass particles should an arc tube rupture occur. The following operating instructions are recommended to minimize these occurrences.

RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.

This lamp contains an arc tube with a filling gas containing Kr-85 and is distributed by Philips Lighting Company, a division of Philips Electronics North America, Somerset, New Jersey 08875-6800.

CAUTION: TO REDUCE THE RISK OF PERSONAL INJURY, PROPERTY DAMAGE, BURNS AND FIRE RESULTING FROM AN ARC-TUBE RUPTURE THE FOLLOWING LAMP OPERATING INSTRUCTIONS MUST BE FOLLOWED.

Lamp Operating Instructions:

1. RELAMP FIXTURES AT OR BEFORE THE END OF RATED LIFE. Allowing lamps to operate until they fail is not advised and may increase the possibility of inner arc tube rupture.
2. Before lamp installation/replacement, shut power off and allow lamp and fixture to cool to avoid electrical shock and potential burn hazards.
3. Use only auxiliary equipment meeting Philips and/or ANSI standards. Use within voltage limits recommended by ballast manufacturer.
 - A. Operate lamp only within specified limits of operation.
 - B. The circuit must include an over-current protection device, like a thermo-switched ballast.
 - C. For total supply load refer to ballast manufacturers electrical data.
4. Periodically inspect the outer envelope. Replace any lamps that show scratches, cracks or damage.
5. If a lamp bulb support is used, be sure to insulate the support electrically to avoid possible decomposition of the bulb glass.
6. Protect lamp base, socket and wiring against moisture, corrosive atmospheres and excessive heat.
7. Time should be allowed for lamps to stabilize in color when turned on for the first time. This may require several hours of operation, with more than one start. Lamp color is also subject to change under conditions of excess vibration or shock, and color appearance may vary between individual lamps.
8. Lamps may require 10 to 20 minutes to re-light if there is a power interruption.
9. Take care in handling and disposing of lamps. If an arc tube is broken, avoid skin contact with any of the contents or fragments.